APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,355	01/03/2002	Kenneth Michael Kapulka	SJO920010044US1	9782

7590 10/18/2004	EXAMINER	
WAGNER, MURABITO & HAO LLP	LE, DIEU MINH T	

ART UNIT	PAPER NUMBER
2114	

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DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 March 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-45</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>11-16</u> is/are allowed.

6)☒ Claim(s) <u>1-10 and 17-45</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>03 January 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some *   c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   This Office Action is response to the communication

filed on 03/22/04 in application 10/039,355.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which

forms the basis for all obviousness rejections set forth in

this Office action:

(a) A patent may not be obtained though the invention is
not identically disclosed or described as set forth in
section 102 of this title, if the differences between the
subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been
obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject
matter pertains. Patentability shall not be negatived by
the manner in which the invention was made.

3.   This application currently names joint inventors. In

considering patentability of the claims under 35

U.S.C. 103(a), the examiner presumes that the subject

matter of the various claims was commonly owned at the time

any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the

obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned

at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.   Claims 1-10 and 17-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kern et al. (U.S. Patent 5,615,329 hereafter referred to as Kern) in view of Beardsley et al. (U.S. Patent 5,771,367 hereafter referred to as Beardsley).

<u>As per claim 1:</u>

Kern substantially teaches the invention. Ault teaches:

- A method for transparently recovering from a coupling facility failure [abstract, fig. 1, col. 8, line 67 through col. 9, line 8], comprising steps of:

- following the failure of a coupling facility, preventing access to said coupling facility [col. 9, lines 13-20 and lines 33-40, and col. 20, lines 5-8;

- determining which data was previously assigned to said coupling facility [col. 11, lines 10-21];

- selecting a new storage location for said data

previously assigned to said coupling facility [fig. 11

and 14, col. 17, lines 57 through col. 18, line 9];

- assigning said data previously assigned to said

coupling facility to a new storage location [fig. 14,

col. 18, lines 22-36].

Kern does not explicitly teach:

- performed without requiring preallocation of white

space in said new storage location prior to said

failure of said coupling facility.

However, Kern does disclose capability of:

- A real time data shadowing system including first

and second DASD [abstract, fig. 1, col. 19, lines 20-

30] comprising capability of:

- error detection and recovery process within DASD

[col. 3, lines 1-15];

- *real time data update and shadowing due to memory*

failure of duplexing system [col. 2, lines 60-61 and

col. 3, lines 17-26].

In addition, Beardsley explicitly teaches:

- A method for improved failure recovery of memory

storage [abstract, fig. 2, col. 3, lines 23-31];

comprising:

   - a means for directing the recovered data to second

   memory and means for allocating data to be stored in

   memory due to failure [col. 7, line 57-67].

Therefore, it would have been obvious to a person

having ordinary skill in the art at the time of Applicant's

invention to first realizing Kern's *real time data update*

and shadowing due to memory failure of duplexing system as

being the *performed without requiring preallocation of*

white space in said new storage location prior to said

failure of said coupling facility as claimed by Applicant.

This is because Kern perform data failure detection and

recovery in real time shadowing without requiring

preallocation of white space memory location; second, by

applying the *means for directing the recovered data to*

second memory and means for allocating data to be stored in

memory due to failure as taught by Beardsley in conjunction

with real time data shadowing system including first and

second DASD as disclosed by Kern t in order to enhance the

memory storage performance, more specifically to ensuring

the memory location error detected, corrected, and replaced

in proper and efficient manner. One of ordinary skill in

the art would have been motivated to do so to improve the

memory location, memory access, memory availability and

memory integrity.

As per claims 2-4:

Kern further teaches:

- recovering from said coupling facility failure in a

parallel sysplex configuration [col. 8, line 67

through col. 9, line 7];

- obtaining serialization on a cache control structure

of said coupling facility to prevent said access to

said coupling facility [col. 9, line 33-40];

- analyzing said cache control structure of said

coupling facility to determine which of said data was

previously assigned to said coupling facility [col. 9,

lines 54-62].

In addition, Beardsley further explicitly teaches:

- a means for directing the recovered data to second

memory and means for allocating data to be stored in

memory due to failure [col. 7, line 57-67].

As per claims 5-6:

Kern further teaches:

- serialization stops any read or write access to said

coupling facility and prevents the assignment of new

data to said coupling facility [col. 9, lines 22-40];

- performing a nominate cache process to select said

new storage location for said data previously assigned

to said coupling facility [[fig. 11 and 14, col. 17,

lines 57 through col. 18, line 9].

As per claim 7-10:

Kern substantially teach the invention. Ault teaches:

- A method for transparently recovering from a

coupling facility failure [abstract, fig. 1, col. 8,

line 67 through col. 9, line 8], comprising steps of:

- invalidating buffers associated with said data

previously assigned to said coupling facility [col.

18, lines 10-22]

- releasing said serialization on said cache control

structure of said coupling facility such that read or

write attempts to said coupling facility will prompt

an internal retry which directs said read or write

attempts to said new storage location   [col. 9, lines

54-62 and col. 11, lines 10-21];

- providing notification that a replacement for said

failed coupling facility is available [fig. 11 and 14,

col. 8, lines 51-63];

Kern does not explicitly teach:

- moving a control structure of said data previously

assigned to said coupling facility to a cache control

structure representing said new storage location.

However, Kern does disclose capability of:

- A real time data shadowing system including first

and second DASD [abstract, fig. 1, col. 19, lines 20-

30] comprising capability of:

- error detection and recovery process within DASD

[col. 3, lines 1-15];

- real time data update and shadowing due to memory

failure of duplexing system [col. 2, lines 60-61 and

col. 3, lines 17-26].

- data mover in primary and secondary system

structured to assign data reside within memory

location [fig. 4, col. 9, lines 43-62 and col. 18,

lines 23-36].

In addition, Beardsley explicitly teaches:

- A method for improved failure recovery of memory

storage [abstract, fig. 2, col. 3, lines 23-31];

comprising:

- a means for directing the recovered data to second

memory and means for allocating data to be stored in

memory due to failure [col. 7, line 57-67].

- a means for allocating data, destaging data,

modifying data, scanning data, converting data,

suspending data, and updating data [fig. 6 and 7, col.

6, lines 3-67].

Therefore, it would have been obvious to a person

having ordinary skill in the art at the time of Applicant's

invention to applying the *means for allocating data,*

destaging data, modifying data, scanning data, converting

data, suspending data, and updating data as taught by

Beardsley in conjunction with *data mover in primary and*

secondary system structured to assign data reside within

memory location in real time data shadowing system

including first and second DASD as disclosed by Kern t in

order to support the data replacement correctly. That is by

utilizing of the combining Kerna and Beardsley approaches,

the memory storage can be maximized in utilization in turn

it will increase memory availability and performance. In

addition, memory data access to and from memory location

can be optimized for data process and operation.

As per claims 17-26:

These claims are the same as per claims 1-10. The only

minor different is that these claims are directed to a

computer readable medium instead of the method for

transparently recovering from a coupling facility failure

described in claim 1-10. However, it would have been

obvious to one having ordinary skill in the art at the time

the invention was made to realized that a **computer readable**

medium is a necessary item for such computer processing

networking system, more specifically, a coupling facility

or dual/duplex computing devices. Since the data storage

obviously needs a means for instruction or code means

resided within the **computer readable medium** for performing

the data failure detection/correction, data storing,

receiving, transmitting operation. Therefore, these claims

are also rejected under the same rationale applied against

claims 1-10.

As per claims 27-35:

Due to the similarity of claims 27-35 to claims 1-10

except for a parallel sysplex computer system comprising

capabilities of processing coupling facility, preventing

access, selecting a new storage location, etc… instead of

method for transparently recovering from a coupling

facility failure comprising steps of processing coupling

facility, preventing access, selecting a new storage

location, etc…; therefore, these claims are also rejected

under the same rationale applied against claims 1-10. **In**

addition, all of the limitations have been noted in the

rejection as per claims 1-10.

As per claims 36-45:

These claims are similar to 1-10. The only minor
different is that claim 36 introduced a limitation of
"preallocation of white space in ___an alternate coupling
facility___" instead of "preallocation of white space in ___a new___
___storage location___" as described in claim 1 since the
alternate facility intuitively can be realized as the new
storage location. Therefore, these claims are also rejected
under the same rationale applied against claims 1-10. **In**
addition, all of the limitations have been noted in the
rejection as per claims 1-10.

Allowable Subject Matter

9.   Claims 11-16 are allowable over the prior art of record.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6.   A shortened statutory period for response to this action is set to expired THREE (3) months, ZERO days from the date of this letter. Failure to respond within the period for response will cause the application to be abandoned. 35 U.S.C. 133.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (703)305-9408 [NOTE: After approximately October 15, 2004, I can be reached at the new number (571) 272-3660]. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703)305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER
ART UNIT 2114

DML
10/14/04